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TINEA CAPITIS DUE TO TRICHOPHYTON SULPHUREUM.

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With the disappearance, possibly only for the time being, of *Microsporum audouini* as a common cause of tinea capitis in this country there has emerged the new and exceedingly difficult problem of tinea capitis due to *Trichophyton sulphureum*.

The literature on this subject is somewhat uncertain on such matters as the duration of infection in the untreated case, the type of case which should be treated by x-ray epilation and the proportion of cases which show inflammatory reaction. There seems no doubt at all that more cases of infection by *T. sulphureum* are occurring. Lewis and Hopper (1948) described only two cases, including one of glabrous skin, in 1948. But Reiss (1954) reported 44 cases of *T. tonsurans* infections including 32 scalp infections seen in New York during the period 1947–53. Reiss used the name *T. tonsurans* as a generic term to include the species *T. sulphureum*, *T. cerebriforme*, *T. acuminatum* and *T. crateriforme*. Walker (1950) at a reference laboratory isolated *T. sulphureum* 39 times from 2473 cultures and Partridge (1952) working from similar material isolated this fungus from 15 of 179 cases of tinea capitis. Pipkin (1952) found *T. tonsurans* (includes *T. sulphureum*) in 32 of 57 cases of tinea capitis and Howell *et al.* (1952) discussed 44 cases of tinea capitis, including 7 in adults, due to *T. tonsurans* in Texas and California. From New Zealand, Fox and Rush-Munro (1953) have described 9 cases of scalp infections due to *T. sulphureum*, and recently Whittle (1956) reported 7 infections in children due to this fungus in a survey of the Cambridge area. In a previous report (Beare and Cheeseman, 1951*a*) on 1004 cases of tinea capitis *T. sulphureum* was isolated 21 times. The present report is concerned with 82 cases of ringworm of the scalp in children due to *T. sulphureum*. These 82 cases include the 21

noted above and were seen during the period January 1949–December 1955 (Table I). They represent all the positive cultures of *T. sulphureum* obtained from scalp infections at the Royal Belfast Hospital for Sick Children and include only cases seen and treated personally. Infections on other parts of the body are not dealt with in this report.

TABLE I.

Year.	1949.	1950.	1951.	1952.	1953.	1954.	1955.
Number of cases .	9	12	13	20	6	8	14

Since my colleagues kindly referred their cases of scalp ringworm to me at the Royal Belfast Hospital for Sick Children and since general practitioners and school medical officers have been most co-operative in referring cases of suspected scalp ringworm to hospital for investigation, these 82 cases probably represent the majority of children with scalp infections due to *T. sulphureum* who sought medical treatment during 1949–55, but, as will be discussed later, it is likely that many cases go quite undetected.

Seventy-three of the 82 children lived in the city of Belfast and 7 came from the nearby industrial towns of Lurgan (5 cases), Lisburn (1 case) and Hillsborough (1 case). The other two came from convent schools in Londonderry and Monaghan, and were likely to have been infected in Belfast and Dublin (Eire) respectively. It is noteworthy that there were no cases from rural districts.

AGE AND SEX DISTRIBUTION.

There was a total of 45 boys affected and 37 girls, the latter including five girls all seen at about the same time and coming from one school. This gives a sex ratio of 1·22 : 1 suggesting a greater susceptibility in boys, but of this one cannot be certain as nothing is known of the relative sex distribution of the general population. A compact outbreak in Newtownards due to *M. audouini* in a known population gave a sex ratio of attack rates (boys : girls) of 3·78 : 1 and it seems unlikely that the sex ratio for *T. sulphureum* is similar to this. Howell *et al.* (1952) found tinea tonsurans equally distributed between the sexes or slightly more common in boys.

The age distribution shown in Table II is also not easily interpreted for the same reason. Between the ages of 4 and 14, the Newtownards outbreak showed no appreciable differences in the attack rates at different ages.

TABLE II.

Age	2	3	4	5	6	7	8	9	10	11	12	13	14
Boys	1	6	3	6	5	6	3	3	4	3	3	1	1
Girls	1	2	3	4	5	10	4	2	2	2	2	–	–

Sharvill (1955) described *T. sulphureum* scalp infections in an infant, his mother and three nurses, and estimated the incubation period at 13–15 days.

Clinical Appearances.

T. sulphureum is parasitic on humans only and, like *M. audouini*, would not be expected to produce a severe inflammatory reaction. But since host-parasite relationship is variable an occasional child with kerion formation would not be surprising. This was so in the *M. audouini* series from Newtownards, when 2% of cases showed kerion ; but of the 82 cases of *T. sulphureum* infection no less than 23 showed a severe inflammatory reaction and 10 of these were particularly severe. Of the remaining 59 children there was no reaction at all in 44 and a slight erythema with mild folliculitis in 15. The variable degree of inflammatory response and the complex clinical appearances produced by the *T. tonsurans* group of fungi have been described by Pipkin (1952).

Infections showing a relatively non-inflammatory type of reaction were often exceedingly difficult to diagnose. Often the patches were tiny and only an occasional broken-off hair led one to suspect ringworm at all. Sometimes a differentiation on purely clinical grounds between this infection and mild patchy seborrhoeic dermatitis was impossible. Rarely a patch of alopecia with hairs broken off at the surface and a " black dot " appearance was present. Combinations of these two appearances were also seen. The lupus erythematosus-like lesions described by Pipkin (1952) in adults were not seen in the present series of children. It appears that within an area of infection all the hairs may be involved or only an occasional one, and the affected hairs may break off at any level. The regular breaking-off of hairs at approximately $\frac{1}{8}$th inch above the surface found, classically, in microsporum infections is not always seen with *T. sulphureum*. The skin within this patch may be normal or may show various degrees of inflammatory change. Usually, however, scaling is present. Added to these difficulties is the fact that there is no fluorescence in Wood's light, though affected hairs will often appear dull and can be distinguished from normal hair.

It seems likely, therefore, that a large number of mild scalp infections due to *T. sulphureum* are not recognized, partly by failure of the doctor to make a correct diagnosis and partly by a mother not noticing anything wrong on her child's scalp. In analogy with microsporum infections these cases will act as carriers of infection.

This idea is supported by the fact that in spite of all our efforts to trace contacts by school medical examinations, examination of family contacts, charting of infected homes on street maps, etc., we seldom succeeded : indeed, our only real success was the finding of five cases in one convent school. This

is in striking contrast to the success achieved by these methods in dealing with outbreaks of microsporum infections (Kinnear and Rogers, 1948; Whittle, 1956; Beare and Cheeseman, 1953). However, there were five examples of transference of infection from one sibling to another. It may be that tinea corporis plays a considerable part in spread of infection (unlike *M. audouini*), but in my experience body lesions, apart from lesions on the back of the neck, are not common with scalp infections. They may, however, be overlooked by the parents.

Delayed Reactions.

Of the ten severe inflammatory cases three were of particular interest, since the reaction changed from non-inflammatory to severely inflammatory after an appreciable delay. Pipkin (1952) described a delay of seven weeks in one of his adult cases. It seems likely that the reaction produced by a fungus on human skin is largely of the hypersensitivity type and therefore 10–14 days would usually be required for this reaction to take place; this initial delay is seen with infections due to *T. discoides* and has been described by Rook (1956). But with our three cases there were delays of 8, 13 and 11 weeks respectively.

Case Reports.

Case 1.—A girl aged 6.

13.xii.54: Attended hospital with a slightly inflammatory patch of tinea capitis of 4 cm. diameter over the left ear, present for six weeks. *T. sulphureum* was isolated on culture. She was given Ung. Zinc. Undecylenat. (N.F.) for local application.

31.i.55: A "few days previously" this patch had become more inflamed. There was now a severe kerion reaction and most of the hairs in the area either had fallen out or were quite loose and easily removed with forceps.

14.ii.55: Reaction had now subsided and the area was quite bald.

Comment.—This reaction was only slightly inflammatory for the first 8 weeks of the infection and then, for no apparent reason, a severe kerion developed. It seems unlikely that the Zinc Undecylenate Ointment given for treatment was responsible.

Case 2.—A boy aged 9.

14.x.54: Attended with small discrete patches of non-inflammatory tinea on the left occipital area and on the back of the neck. These had been present for one month. *T. sulphureum* was isolated on culture. Hibitane solution (I.C.I.) was given for local application (this preparation was on clinical trial at the time).

28.x.54 and at intervals to 15.xi.54: There was no change in the appearance of the infection. A local x-ray epilation was carried out on 15.xi.54.

23.xii.54: The child reattended with a very large painful kerion. The area epilated by x-rays was very small (smaller than intended).

30.xii.54 : Kerion subsiding.

20.i.55 : Kerion now quite settled and no inflammation remained. All hairs in the affected area had fallen out.

Comment.—This child's ringworm was non-inflammatory for 13 weeks, then 5 weeks after local x-ray treatment a kerionic reaction developed. This may have been due to the trauma of x-ray treatment in some way upsetting the host-parasite relationship.

Case 3.—A boy aged 7.

18.xi.54 : Attended with a small non-inflammatory patch of tinea capitis on the left occiput of one week's duration. *T. sulphureum* was isolated on culture. Hibitane cream (I.C.I.) was given for local application.

6.xii.54 : No change was seen in the scalp condition, but the child had developed a few new patches on the face.

3.i.55 : Condition looked a little better and was thought to be clearing.

24.i.55 : Further improvement. Treatment changed to Ung. Ac. Benz. Co. (N.F.).

7.ii.55 : Severe kerion had now developed ; this had been present since 1.ii.55.

3.iii.55 : Condition now quite clear and all hairs had fallen from affected area.

Comment.—This child had a non-inflamatory patch of tinea capitis for 11 weeks, when quite suddenly the lesion became kerionic and this was followed by speedy recovery. Had it not been for the presence of facial patches this child would have been ordered x-ray epilation of the whole scalp, but it was hoped to clear these facial patches before epilation was carried out. The kerion did not seem to have been due to treatment, and there was no apparent reason for it apart from a history, given by the mother, of a blow on the head a few days before the inflammatory change. This may have been the stimulus which upset the host-parasite relationship in this case.

Discussion.

It seems most unlikely that local treatment had anything to do with the development of kerion reactions ; the substances in use at the time (Hibitane, Ung. Ac. Benz. Co. and Ung. Zinc. Undecylenat.) have been used in many other cases of ringworm of the scalp and glabrous skin without giving rise to any suspicion as possible causes of folliculitis. It is strange that, although this series covers a seven-year period, these three cases of delayed reactions were seen about the same time (October, November and December 1954). The three children were not related and had no known communication with each other, nor with any contact. One child lived in Lurgan and the other two in different parts of Belfast.

In a discussion on infections due to *T. discoides* and *T. mentagrophytes*, Rook (1956) stated " at all ages trauma preceding the onset of infection and over-treatment in its earlier stages increased the inflammatory reaction ", and in two of these three cases of delayed kerion there was preceeding trauma (x-ray treatment and a blow). One must be careful, however, not to give too much weight to the mother's story of her child having had this mild trauma and this being responsible for the change in the local condition.

Treatment.

Nothing is to be gained from analyzing the results of treatment in this series since we were constantly changing and experimenting with new regimes. Certain impressions have, however, been gained while looking after these children.

The delayed kerion reaction is most disconcerting. Parents, believing the child's condition to be getting worse, are apt to blame the doctor. Many of the non-inflammatory infections should be treated by x-ray epilation, yet if this is done and if a kerion then develops (as happened in Case 2), the parents will attribute the deterioration in the child's condition to the x-ray treatment. On the other hand, the development of kerion certainly hastens cure. In the present series three cases are thought to have lasted over one year (16, 17 and 18 months respectively). It seems doubtful whether untreated *T. sulphureum* infections last on the average as long as *M. audouini* infections, but the appropriate treatment for a non-inflammatory case is probably x-ray epilation, thereby rendering the child free of infection in the shortest possible time. Local epilations have been carried out for a few localized patches of long duration where there was a good history of these patches not having spread or extended for some months, but this failed so often that it is probably not justifiable ; in any case, local epilation has few cosmetic or other advantages. Even with an appreciation of the dangers of a carrier state it is doubtful whether one can justify x-ray epilation with its attendant theoretical risks for a child with a tiny area of ringworm, giving rise to no symptoms and so insignificant that it is difficult for the parents to detect. Especially is this so in a girl. In such cases we have relied on a local greasy fungicide, a cover if possible of the child's own non-infected hair and parental co-operation in the avoidance of transference of infection. It seems logical to make use of the fact that fungus spread is via stratum corneum into the hair follicle and from there into the hair shaft, and that the extra-follicular part of the hair cannot be infected directly. When this important point is appreciated it will be understood that the wearing of caps, etc., is not necessary and the child will not appear conspicuous. Specific instructions are also given to the parents that the hair should not be cut. School medical officers have co-operated in letting such children continue to

attend school and no parent has been known to disregard instructions. Spontaneous cure eventually occurs. It is doubtful whether any local application has any curative effect, but spread of infection may be prevented by substances which are sufficiently greasy. Hibitane preparations (I.C.I.) were tried but were not thought to have had any beneficial effects in the treatment of these *T. sulphureum* infections.

Summary.

Eighty-two cases of tinea capitis due to *T. sulphureum* are recorded; 45 boys and 37 girls were affected.

T. sulphureum infections are probably becoming more common.

Most cases are found within large centres of population.

The great difficulty in clinical diagnosis is stressed. Many cases are almost certainly missed and probably act as carriers of infection.

Twenty-three of the cases showed severe inflammatory reactions and 10 of these were particularly severe.

Three cases showed delayed kerions (after 8, 13 and 11 weeks respectively).

The difficulties in management and in treatment are considerable. X-ray epilation is indicated in extensive non-inflammatory cases. Watchful expectancy with anticipation of spontaneous cure probably within a year seems to be the most logical treatment for insignificant and non-inflammatory patches. The development of kerion hastens cure.

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THE MYCOSES AS A THERAPEUTIC PROBLEM: SURVEY OF 348 CASES.

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THE results of treatment of fungous diseases which have been published in the recent literature have encouraged us to present our own data concerning this problem. Owing to the prophylactic and therapeutic measures initiated in the post-war years in the campaign against the mycoses, the incidence of these infections is steadily decreasing. This is due above all to the compulsory notification by general practitioners and dermatologists of every case of ringworm to the public health centres—the Voievodship Central Dispensaries for Skin and Venereal Diseases. The latter are responsible for the thorough examination of all persons suspected of having contracted a fungous infection and free treatment of all types of mycosis is available in corresponding outpatient and inpatient hospital departments. It is likely that the early recognition of hidden cases of ringworm is of great prophylactic importance, these being often a source of small epidemics, especially in communities of children.

Out of 374 cases of mycosis treated at the Dermatological Clinic of Gdańsk in the period 1946–54, there were 248 cases of tinea trichophytica of the hairy scalp, 72 cases of tinea favosa, 45 cases of kerion Celsi and 9 cases of isolated onychomycosis trichophytica or favosa. No case of microsporum infection was encountered in this period. Cases of tinea corporis are excluded from this survey because of their smaller therapeutic importance.

The diagnosis of mycosis was always confirmed by clinical and microscopic examination and by means of Wood's light. As cultural methods were employed only more recently, we cannot present these data for the whole survey.

In the Dermatological Clinic of Warsaw the following distribution of species of fungi could be established in 496 cases. *Trichophyton violaceum*, 42·1%; *Achorion Schönleini*, 18·7%; *Trichophyton gypseum*, 17·5%; other species were identified in an insignificant percentage of cases (Rdzanek *et al.*, 1954).

DISTRIBUTION OF PATIENTS.

The sex and age incidence of tinea trichophytica capitis is shown in Table I.

As appears from the table, the high incidence of tinea capitis among children from 3 to 6 years is striking and must be attributed to a greater susceptibility to infection at this age. In our experience the spread of tinea trichophytica was apparently favoured by large families or by living in children's homes or crèches,

TABLE I.—*Incidence of Tinea Trichophytica Capitis.*

Age (years)	Boys.	Girls.	Total.
0–3	2	3	5
3–6	80	93	173 (70%)
6–9	24	25	49
9–12	8	6	14
12–14	4	3	7
14–18	—	—	—
Adults	—	—	—
	118	130	248

the spread of infection there being obviously more marked. Contrary to the widespread belief, the more intermittent contact between school children plays a minor part in the spread of infection.

The distribution of favus capitis according to age and sex is presented in Table II.

TABLE II.—*Incidence of Tinea Favosa.*

Age (years).	Male.	Female.	Total.
0–3	—	—	—
3–8	3	2	5
8–15	17	16	33
15–30	8	18	26
30–50	3	5	8
	31	41	72

We found no case of favus in a child under 3 years of age. Furthermore, we confirmed the findings of other authors who in several instances have recorded concomitant infection not only in many siblings of one family but in the mother also. Carslaw (1955), on the basis of his 39 cases, expresses the opinion that the spread of favus from the mother to the new-born child is very frequent, the mother being the main source of infection to her children ; should the child escape infection in early infancy the risk of acquiring infection later is slight. However, in our patients this spread of infection, although possible, seems to play a minor part, since in only 4 cases could simultaneous infection of the mother be found.

In contrast to tinea capitis, there was an obvious connection between the incidence of favus and the living conditions of the patients, who were for the most part of farming stock. Although the disease was known to be progressing in them for many years they did not come under medical observation. Fortunately, one can recognize a steady decrease of new infections of this kind in recent years, those now seen having been contracted mainly during the last war when living conditions were bad. Further, our cases of favus occurred in localized family epidemics and did not pass in general from them to others.

Little can be added to the epidemiology of kerion Celsi. Almost all our 45 patients with this type of infection were of farming stock and were infected

while handling cattle. The majority of patients came under observation in the winter and spring months, the disease occurring in focal outbreaks in certain rural districts. As lesions of this type show a marked tendency to spontaneous healing our treatment consisted of either mechanical removal of infected hairs or x-ray epilation.

The principles of management of our patients are mentioned only in outline. Epilation by means of x-ray was carried out in all patients with tinea capitis. Four, rarely five fields, according to the circumference of the scalp, were irradiated during two successive days. In children doses from 400 to 450r to each field were given according to age of the patients. Adults received 500r to each field, apart from the beard region, where 400r was given. No immediate or late side-effects were encountered ; regrowth of hair started at the usual time except in the previously scarred areas in favus cases.

In the years 1946–49 we carried out irradiation both in inpatients and in outpatients. However, it soon became apparent that the results of treatment in outpatients were not as good as those obtained in inpatients, presumably due to incomplete removal of infected hairs or to inadequate application of fungicides during the post-epilation period. Since this time, therefore, both epilation and after-treatment of ringworm have been carried out in inpatients only, the average stay in hospital for children being from six to eight weeks, rarely more.

After complete removal of all hairs the classical treatment is employed in all patients during their entire stay at the clinic. This consists of painting the scalp with 5% tincture of iodine twice daily and the application of Wilkinson's ointment once daily ; the head is washed every day with hot water and soap.

No child is discharged until three successive examinations of fragments of hair and scales are negative for fungus. The treatment is continued after patients return home, and clinical and, when necessary, microscopic examinations at intervals of two to four weeks are continued.

When no scaly patches appear during four to six months and microscopic examinations are negative for fungus the patient is regarded as definitely cured. This long period of follow-up seems to be necessary because of the known difficulty in curing especially favus of the hairy scalp. This period is in our opinion sufficient to judge the ultimate outcome of treatment.

Results of Treatment.

Despite all these precautions there were about 7% relapses in tinea trichophytica and 9% relapses in tinea favosa. Our results approach those obtained by Berlin and Meyrowitz (1955), who in treating 1784 cases of trichophytosis capitis by means of x-ray obtained about 5% relapses. Our results are better than those obtained by Carslaw, who had 8 relapses out of 27 cases of tinea favosa. Failure of treatment was due either to faulty epilation or to inadequate

application of topical drugs by outpatients. In some cases the recurrences were probably true reinfections produced by concomitant and relapsing onychomycosis, as the latter showed a marked tendency to recur even after surgical removal of the affected nails. It may be difficult to decide between recurrence and reinfection as the clinical picture in both cases is the same. Suspicion of reinfection increases proportionately with the length of the symptom-free period between the conclusion of treatment and the reappearance of the disease ; on the other hand, the diagnosis of relapse may be established with a reasonable degree of certainty if the symptoms of the disease reappear soon after treatment is stopped. In some cases the reappearance of lesions on the scalp could be undoubtedly attributed to reinfection from other children in the family or elsewhere, if these had not been detected and dealt with at the time.

For these reasons, in the campaign against the mycoses, therapeutic measures alone, although of great value, cannot be regarded as sufficient to stop the spread of fungous infection. Attention must be drawn to such prophylactic measures as simultaneous and repeated examination of all persons who have been exposed to the risk of infection. The thorough examination of children's communities such as schools and nurseries must be systematically carried out in order to prevent the spread of infection. The attention of public health centres must be focussed especially on large families in which even one case of ringworm has appeared. According to Ariewicz (1954) the examination of children belonging to a suspected family must be carried out at least three times at intervals of several weeks. These precautions are necesary in view of the well known property of ringworm to develop slowly or to remain latent for a time. From an epidemiological viewpoint a steady decrease of fresh infections may be attained by co-ordination of these therapeutic and prophylactic measures.

Summary.

In combating fungus infections treatment and prophylaxis must go hand in hand. The early recognition, isolation and treatment of each reported case must be secured.

The results of treatment in hospitalized children are better than those obtained in outpatients. There were 7% and 9% relapses in tinea trichophytica and favosa respectively.

Attention must be paid to the simultaneous and repeated examination of all children in families or other groups in which even single cases of ringworm have been reported.

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THE TREATMENT OF POLYMORPHIC LIGHT ERUPTIONS WITH CHLOROQUINE.

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THE treatment of polymorphic light eruptions with mepacrine has given such promising results that treatment with the related substance chloroquine has been tried by several workers (Knox *et al.*, 1954; Cahn *et al.*, 1954) because the latter substance does not have the embarrassing side-effect of yellow skin coloration seen with mepacrine.

The skin of patients with polymorphic light eruptions appears to differ from normal skin both qualitatively and quantitatively. Qualitative differences are reflected by the characteristic eczematous and pruriginous eruptions observed in such patients after ultraviolet irradiation. Quantitative differences are reflected by lack of adaptability to growing intensities of ultraviolet radiation. The latter appears, in some degree, to depend on the capacity of the skin to produce pigment (Haxthausen, 1919).

In the course of 1955 the authors treated a number of patients suffering from polymorphic light eruptions with chloroquine; the patients were exposed to experimental radiation in order to assess changes in the reaction of the skin to ultraviolet radiation during the treatment.

MATERIAL AND METHODS.

In the spring and summer of 1955 we treated 58 patients for polymorphic light eruptions, viz. 42 women and 16 men, including two children aged 3 and 4. Their ages ranged from 3 to 80 years, the majority being between 30 and 60 years old (average age : 42 years). The duration of the disorder ranged from 1 to 55 years, the most frequent duration being 5–10 years (average duration : 15 years).

Treatment.—In February and March treatment of 18 patients was instituted with daily doses of 125 mg. chloroquine diphosphate ; this dose was sufficient in only one case.

The usual treatment of acute eruptions was one tablet (250 mg.) of chloroquine diphosphate per day. If this was not sufficient to eliminate the symptoms, the daily dose was doubled or, in a few cases, raised to 750 mg. or even 1000 mg. In some cases, the daily dose could be reduced to 125 mg. without causing noticeable relapse. The dose was reduced where mild side-effects were observed.

The period of treatment ranged from 2 to 30 weeks—usually about 15 weeks. The maximum total dose administered was 91 g. chloroquine diphosphate, while the average total dose was 33 g.

Conditions.—During the treatment we encouraged the patients to refrain from using protective measures against light (e.g. hats with shades, liniments or ointments) and to go about freely, irrespective of weather, light, or shade.

Experimental radiation.—In order to study the adaptability of the skin to ultraviolet radiation during chloroquine therapy, we determined the minimal erythema dose (m.e.d.) before, during, and at least three weeks after the discontinuation of treatment.

For these examinations we used a mercury arc lamp (Hanau) with three spectral lines (2970, 3020, and 3130 Å). No filter was used, and the lamp was calibrated photometrically once a week. The area irradiated was the volar side of the forearm, because this area was easily accessible, covered in winter, and exposed to some solar radiation in summer. The irradiated fields were 2 by 2 cm. squares, and the lamp-skin distance was 50 cm. Irradiation times were 1, 2, 4, 8, and 16 minutes. Readings were taken after 48 hours in order to minimize variations, if any, in the period of latency.

Results

I. Results of Treatment.

Cases were divided into three groups according to the estimated severity of the disorder, viz. mild, moderate, and severe. The results are indicated by " + effect " (disappearance of symptoms after optimal dosage); " (+) effect " (alleviation of eruptions, but not complete or permanent disappearance of symptoms); and " — effect " (treatment had no effect). Table I shows the results of treatment.

Table I.

	+ Effect.	(+) Effect.	— Effect.
14 severe cases	7 (50%)	4	3
37 moderate cases	31 (84%)	6	0
7 mild cases	7 (100%)	0	0
Total: 58 cases	45 (78%)	10	3

The correlation between the results of treatment and the daily doses (1 tablet = 250 mg. chloroquine diphosphate) is shown in Table II.

Table II.

Daily dose (tablets).	½.	1.	1½.	2.	3.	4.
+ Effect (45 cases)	2	13	2	19	7	2
(+) Effect (10 cases)	1	1	0	2	3	3
— Effect (3 cases)	0	0	0	2	0	1

(The dosage for children has been converted so as to correspond to the dosage at 70 kg. body weight.)

It will be seen that most of the cases can be kept in check at a daily dose of 250–500 mg. chloroquine diphosphate, but in a few it was necessary to raise the daily dose to 750 mg. or even to 1 g.

Side-effects and laboratory studies.—Six patients experienced unpleasant blurring of vision, sometimes accompanied by disturbances in accommodation. These side-effects were overcome by reducing the dose or suspending the treatment for a short period. Four patients complained of dyspepsia, but only one case was so severe that the treatment had to be suspended. Depigmentation of all the scalp hair was observed in two cases during chloroquine therapy ; the colour was restored when the treatment was discontinued. Pili annulati was observed in one of these patients.

Interference with normal sweating and dermatitis were not observed.

During the treatment, haemoglobinometry, sedimentation tests, counts of red corpuscles and white blood cells, differential counts, and examinations for methaemoglobin were performed. In one case, methaemoglobin was observed in the blood for a short period, but it disappeared again, although the treatment was not suspended. The other examinations revealed no changes as a result of the treatment.

II. Results of Experimental Radiation.

In 39 patients m.e.d. was determined before, during and after the treatment. Experimental radiation was repeated several times during the treatment, but only the highest of the values found has been recorded in Fig. 1, which shows that the m.e.d. of these patients was one or two minutes before the treatment ; during the treatment it was usually 8 or 16 minutes ; three weeks after the treatment or later the most frequent value for m.e.d. was 4 or 8 minutes. Fig. 1 also shows the relation between the result of treatment and m.e.d.

In 9 patients we inadvertently provoked polymorphic light eruptions by experimental radiation. The amount of radiation required to provoke such eruptions was higher than the m.e.d. in all cases.

Discussion.

The results of the chloroquine therapy of polymorphic light eruptions conform to the previous findings of other workers. The effect is convincing in a majority of the patients, while a smaller group showed only partial improvement and the smallest group were unaffected. Even though patients with polymorphic light eruptions usually improve spontaneously during the summer, thus experiencing less inconvenience in the late summer than in the earlier months, we believe that the results of the treatment appreciably exceed this spontaneous improvement. By way of illustration, it may be noted that a woman who had been unable for more than 50 years to go about in the open without developing a

light eruption, could stay out of doors without any inconvenience in 1955. It may be added that this summer had an unusually high number of sunshine hours.

Our results of experimental radiation conform to the findings of Bettley and Page (1954) who, in mepacrine therapy of lupus erythematosus, demonstrated a rise of m.e.d. during the treatment. On the other hand, Cahn *et al.* (1955)

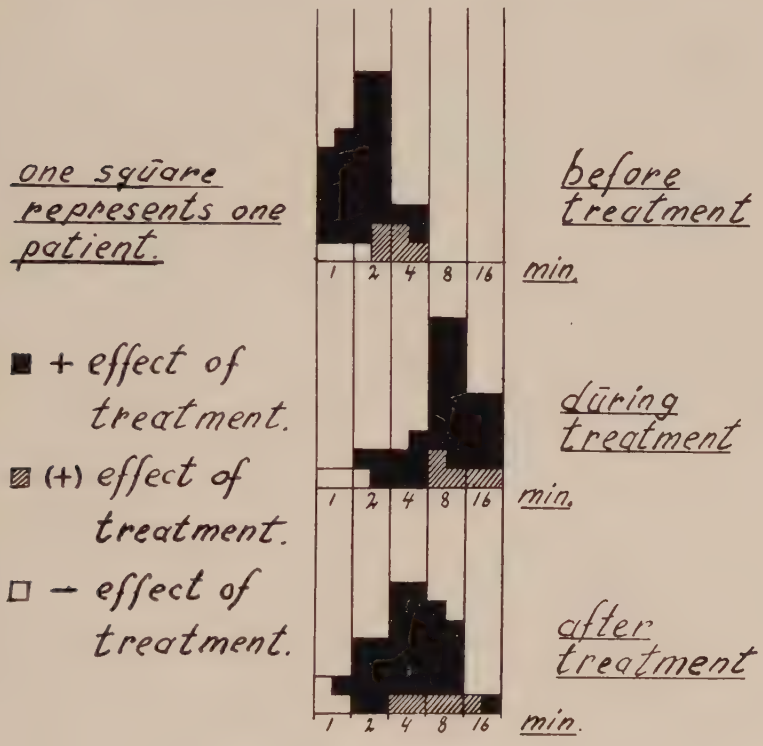

Fig. 1. Minimal erythema dose.

could not demonstrate any rise in m.e.d. in chloroquine therapy of polymorphic light eruptions. The discrepancy between their results and ours is probably due to the fact that their examinations were carried out in the course of only four weeks, and ours extended over a longer period. In our opinion the explanation of the discrepancy is that chloroquine exerts no direct influence on light tolerance but can restore the adaptability of skin to ultraviolet radiation. Hence the change in m.e.d. cannot be ascertained until patients have been exposed repeatedly to ultraviolet radiation in addition to chloroquine therapy.

This hypothesis on the effects of chloroquine was corroborated by our observations in 3 cases where no effect of treatment could be seen and where no rise in m.e.d. could be demonstrated either. The inverse hypothesis seems equally

applicable, although in one case where the response to therapy was obtained we could not demonstrate any rise in m.e.d.

Summary and Conclusions.

Chloroquine given to 58 cases of polymorphic light eruption kept about 75% of the patients free from symptoms. The majority of the remaining 25% responded favourably, but a few showed no response. The effective daily dose was usually 250–500 mg. of chloroquine diphosphate.

Side effects were : blurring of vision and disturbance of accommodation, dyspepsia, and (in two cases) depigmentation of all scalp hair, but the side effects were insignificant inasmuch as they could all be eliminated by reduction of the dose or suspension of treatment for a short period. Apart from transient methaemoglobinaemia, no blood changes were observed in connection with the treatment.

A rise in minimal erythema dose could generally be demonstrated in patients where treatment was effective, but not in those who showed no response.

It is believed that the effect of chloroquine on polymorphic light eruption is due to the ability of this preparation to restore the adaptability of skin to ultraviolet radiation.

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ROYAL SOCIETY OF MEDICINE.

SECTION OF DERMATOLOGY.

President—Dr. Louis Forman.

20 October 1955.

Cutis Laxa with Urticaria and Purpura.—Dr. R. P. Warin.

F. J. male aged 47. Fireman (painter and decorator up to 1934).

History.—May 1950: Vesicular rash over back of neck and scalp. The possibility of dermatitis herpetiformis was considered. Administration of pot. iodide gave rise to a widespread erythematous and purpuric eruption with numerous bullae. Given sulphapyridine 0·5 g. *b.d.* intermittently for nine months; the eruption appeared to be controlled and gradually cleared.

December 1951: Widespread urticarial eruption, which has continued intermittently since. Wheals last a few hours up to a few days. They do not itch. The tendency to wheal is reduced when on antihistamines.

October 1953: Ecchymoses and purpura which have also continued intermittently since. They readily develop on minor trauma. Skin noticed to be loose and hyperextensile, particularly over back of neck.

January 1954: Firm papules chiefly over back of neck lasting 3–4 weeks, which continued to appear at intervals.

November 1954: Skin readily "knocked off" on minor trauma, leaving raw areas. Numerous epidermic cysts appeared on arms, probably at sites of such breaks in the skin.

January 1955: Plaques over front of forearms, which lasted 2–3 weeks and had a raised well-demarcated edge. On clearing they left faint scarring at the site of this edge.

Family history.—No similar complaints (5 brothers and 2 sisters).

Examination.—Thin, lax, easily wrinkled skin particularly over the back of the neck, where, with prominent and blocked follicles, it gives a "chicken crop" appearance. Thin scars over the knees and areas of fine scarring over the forearms, forehead and trunk.

Blotchy pigmentation over face and trunk. A few epidermic cysts, particularly around elbows.

Wheals over trunk, face and limbs, which vary in size from ½–10 cm. Always a few wheals present: at times profuse and associated with giant urticaria.

Firm follicular papules particularly over the back of the neck.

Ecchymoses and purpuric areas over face, trunk and limbs.

General examination N.A.D. Ocular fundi normal. B.P. 140/90. Urine N.A.D.

Investigations.—Blood W.R. and Kahn negative. Plasma proteins normal.

Urine: porphyrins negative. No excess of amino acids, two spots only on chromatogram, glycine and probably glutamic acid.

Skiagram of chest and barium meal normal.

Blood cytology normal. Bleeding and clotting times normal. Hess's test negative.

Histology (Dr. A. L. Taylor).—The epithelial rete is thin but slightly mammillated. The lower rete border cells contain abundant melanin and chromatophores are prominent in the upper part of the corium. The connective tissues of the cutis

vera are loose-textured, but very vascular and there are areas of stromal haemorrhage. The capillaries of the cutis are dilated and their endothelium is many cells thick. In one area fairly deep in the corium there is a small focus infiltrated with polymorph cells surrounding a curious vacuolated area, as though some form of foreign body has been present. At the periphery of this "granuloma" numerous irregular giant cells are seen. Elsewhere the stroma consists mainly of slender collagen fibres. Elastic fibrils are conspicuously few in number except in the deepest portions of the tissue. No *Myco leprae* are demonstrated.

Comment.—I have been unable to find any similar case in the literature. A number of features resemble the Ehlers-Danlos syndrome, but this man's condition did not begin until the age of 42 ; there is no undue over-extensibility of the joints ; although the skin is lax and easily wrinkled it cannot be pulled out in the same way ; the histology shows diminution in the elastic fibrils as opposed to the excess usually described in the Ehlers-Danlos syndrome.

The curious granulomatous area in the corium suggests a reaction around the vacuolated spaces. It is thought that the condition might be due to an unusual primary degeneration of connective tissue. At times this sets up a granulomatous reaction in a similar way to that described in pseudo-xanthoma elasticum. The degeneration might give rise to the wrinkled and easily grazed skin and the haemorrhage might be due to lack of connective tissue support or to a similar change in the blood vessels themselves.

The wheals are unexplained.

Dr. I. B. Sneddon : I would suggest the diagnosis of Ehlers-Danlos syndrome despite the late age of onset. I have recently seen a woman aged 35 with the Ehlers-Danlos syndrome who presented with recurrent bleeding into the tissues and urticaria the result of penicillin injections. The urticaria tended to remain in dependent parts, such as around the elbows and forearms, because of the lax skin. The clinical appearances of the case seen to-day and my patient have much in common.

"Erythroplasia" Associated with Multiple Intra-epidermal Carcinomata.—Dr. Maurice Garretts (for Dr. W. N. Goldsmith).

Mr. J. G—, aged 64. Occupation : street musician (previously a brass finisher).

History.—This patient has suffered from epileptic fits for 30 years, for which he has received treatment at most of the London teaching hospitals. He has had a lot of bromides in the past, and it is likely that liquor arsenicalis was added. At present he is receiving phenobarbitone and epanutin.

He first complained of a sore on his left loin three years ago, and some other red blotchy spots appeared on his chest and back about one year ago. He believes the sore began as a red scaly area resembling the other scaly lesions which subsequently appeared.

On examination.—A well nourished middle-aged man. When approached at the bedside he twitches and makes sudden jerky, shaking movements, which seem to be the expression of anxiety and shyness. They do not occur at rest in the absence of medical attendants.

Chest : N.A.D.

C.V.S. : N.A.D. B.P. 120/70.

Abdomen : Firm liver edge palpable. Spleen and kidneys not felt.

No enlarged glands.

C.N.S. : No ocular changes. All reflexes brisk. Plantar responses flexor. No localizing signs. Loss of smell sensation.

Skin : On the left loin there is an oval erythematous, velvety plaque, $3\frac{1}{2} \times 2\frac{1}{2}$ in. It oozes serum, and bleeds when touched. It is very sharply demarcated and has a very thin but just perceptible rolled edge. The anterior portion of the plaque has reacted with violent blistering to treatment with carbon dioxide snow, but has

epithelialized, and is now a bright pink colour, which contrasts markedly with the raw beef colour of the rest of the lesion.

Scattered over the rest of the body, mainly on the upper part of the trunk, are spots varying in size from $\frac{1}{2}$ in. to $2\frac{1}{2}$ in. in diameter. They are of a dull brick red colour, with adherent scales, and are somewhat psoriasiform.

Mucous membranes are intact.

Investigations.

W.R. and Kahn negative (repeated negative).
White cell count with differential : normal.
Chest skiagram : no significant lesion seen.
E.E.G. : waves suggestive of a temporal lobe type of epilepsy.
Skull x-ray : no changes suggestive of a space-occupying lesion of the brain.
Plasma bromide 12·5 mg./100 ml.
Urine bromide 12·5 mg./100 ml.

Skin biopsies.

Section A : from anterior edge of plaque on left loin.—As would be expected from the clinical appearances there is a series of papilliferous processes, each covered with a very thin layer of squamous cells. There is intracellular oedema. Immediately beneath the epidermis is a dense inflammatory infiltrate of polymorphonuclear leucocytes and lymphocytes, with dense aggregates of plasma cells. More mast cells than usual are present. No changes suggestive of an epithelioma seen.

Section B : from the posterior edge of the same lesion as section A.—There is acanthosis, together with mild patchy spongiosis. Some of the epidermal cells appear vacuolated and hydropic. The general arrangement of the epidermis is irregular and many cells are of the basal cell type. There are some large cells with hyperchromatic nuclei together with clumped cells, and some dyskeratotic cells of the type associated with Bowen's disease. In this section the infiltrate is less dense than in section A, and there are fewer plasma cells.

Section C : from a psoriasiform lesion on the back.—Changes characteristic of Bowen's disease. Section shows individual cell keratinization, and several vacuolated and some multinucleated epidermal cells. There is disorder of epidermal cell arrangement, and a mild infiltrate in upper dermis consisting of lymphocytes with a few plasma cells.

Biopsy of another psoriasiform lesion shows comparable changes of Bowen's disease.

Staining histological sections by the Castel method revealed no evidence of the deposition of arsenic.

Spectrographic analysis of an intra-epidermal carcinoma lesion revealed less than one or two parts per million of arsenic.

Discussion.—In 1950 Zoon showed three cases of erythroplasia of the penis to the Netherlands Dermatological Society. He was struck by the fact that the histology showed nothing suggestive of a precancerosis, but was characterized by a marked plasma cell infiltrate.

In 1952 Zoon added five further cases and published a report on his findings in eight cases. All the lesions described were on the penis and the patients ranged from 24–74 years old. Clinically, they were characteristic examples of the lesions described by Queyrat (1911) and consisted of vivid red lesions, clearly defined, on the glans penis and internal surface of the prepuce. Queyrat thought syphilis was of aetiological importance, and that the disease was related to leukoplakia, which also has a tendency to become malignant.

While Zoon believes that Queyrat's disease is an entity, he thinks that his own eight cases, though resembling Queyrat's cases clinically, are histologically proved to

be a different disorder. Zoon described the histological findings of his cases as follows : " The epidermis tends to be atrophic and is in many cases reduced to a single layer of cells. One case shows mild benign acanthosis. In many places there is intra- and extra-cellular oedema (spongiosis). A certain number of cells show hydropic swelling and a vacuolated appearance. They resemble dyskeratotic cells. One does not find the cells of the Bowen or Paget type in this disorder, nor are there mitoses. There is an inflammatory infiltrate in the dermis consisting mainly of plasma cells. There are many mast cells, mainly along the course of vessels and nerves, a few lymphocytes and eosinophils and some fibroblasts." He has called these cases *balanoposthitis chronica circumscripta plasmacellularis.*

Sachs and Sachs (1948) studied nine cases and concluded that erythroplasia of the Queyrat type need not necessarily be regarded as a cancerous or precancerous condition. They considered the possibility of a primary dermal inflammation, perhaps due to a specific agent.

Other authors have described erythroplasia of the Queyrat type, and they consider the disease as a precancerosis, or a form of intra-epidermal neoplasm. (Sutton and Sutton (1939), Madden (1935), Sulzberger and Satenstein (1933), and Desaux (1948).)

Darier (1947) together with Fournier in 1893 (before Queyrat's publication) had described a precancerous condition under the title *Epithéliome papillaire nu.* Histological examination revealed hyperplasia with superficially abraded processes, and an infiltrate in the upper dermis. Darier says that " these lesions are often found next to typical Bowen's disease, and may be considered to be a baso-cellular form of Bowen's disease."

An area of basal cell proliferation was seen within the epidermis in our second biopsy.

Zoon concludes that there are two disorders that can present the red velvety plaques described by Queyrat :

(*a*) True erythroplasia of Queyrat where the histology reveals cancerous or precancerous changes including Bowen or Paget cells, and only a few plasma cells.

(*b*) Balanoposthitis chronica circumscripta plasmacellularis of Zoon in which there is no malignant change, but there is a marked plasmocytic infiltrate. These can only be distinguished by histological studies.

In our patient, the erythroplasia-like lesion on the left loin shows the histological picture described as balanoposthitis chronica circumscripta plasmocellularis of Zoon, with an atrophic epidermis and a plasma cell infiltrate in the first biopsy. In the second biopsy of the same lesion there are fewer plasma cells, and an epidermis showing Bowenoid changes. Other lesions show typical Bowen's disease histologically.

Rosenberg (1953) made a spectrographic analysis of lesions from a case of multiple superficial epitheliomatosis. He found no arsenic present, using a method that would have detected two parts of arsenic per million. There was no history of arsenic having been administered in his case.

An intra-epidermal epithelioma from this case was examined spectrographically and no arsenic was found. In another of Dr. Goldsmith's cases of multiple superficial epitheliomatosis with a history of epilepsy, and arsenic ingestion over many years, similar spectrographic analysis for arsenic gave negative results.

It seems, therefore, that where arsenic is considered to have acted as a carcinogen, its presence cannot be demonstrated in the tissues years later, despite the fact that epitheliomata continue to appear. The treatment of these cases with British Anti Lewisite (B.A.L.) is, therefore, not considered to be indicated.

Conclusions.—This case shows that the Zoon type of erythroplasia can occur elsewhere than on the penis. [Sachs and Field (1952) have reported a case of erythroplasia on the scrotum.] It seems unlikely that there is no relationship between the large plaque and the rest of the lesions which are frankly epitheliomatous. If they are related, it suggests that balanoposthitis chronica circumscripta plasmacellularis

of Zoon is not a separate disease, but is developed from an intra-epidermal epithelioma. The sequence of events is not clear.

We should like to acknowledge the kind assistance of Mr. L. C. Nickolls, Director of the Metropolitan Police Laboratory, New Scotland Yard, who carried out the spectrographic analyses after the case was shown.

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Dr. G. B. DOWLING: Having heard Professor Zoon describe plasma-cell balanitis and its histology, Whimster remarked that the identical histological picture was sometimes found in vulval atrophy.

The following cases have been published in *Proc. R. Soc. Med.*, **49**, 131.

Sustained Blood Eosinophilia with ? Eosinophilic Granulomata.—Dr. D. S. WILKINSON.

Acquired Ichthyosis following Parapsoriasis en Plaque.—Dr. BRIAN RUSSELL.

Lymphatic Infiltration of the Skin.—Dr. C. D. CALNAN.

Scirrhous Metastasis Simulating Necrobiosis Lipoidica.—Dr. R. G. HOWELL (for Dr. G. B. MITCHELL-HEGGS).

The following cases also were shown:

Keratosis Punctata Resembling Pityriasis Rubra Pilaris.—Dr. J. E. M. WIGLEY and Dr. D. L. REES.

Melanodermatitis Toxica Lichenoides.—Dr. H. T. H. WILSON.

Purpura Telangiectodes Majocchi or Schamberg's Progressive Pigmentary Dermatosis.—Dr. THERESA KINDLER.

SOUTH WEST OF ENGLAND AND WALES DERMATOLOGICAL SOCIETY.

Cardiff, October 1955.

Lupus Erythematosus Profundus (Irgang).—Dr. ERIC WADDINGTON.

A woman aged 25.

History.—At age 15 she developed a solid slightly tender nodule on the left forearm which disappeared in a few weeks leaving a depression in the skin. At age 18 red scaly patches appeared on the nose and cheeks which have persisted despite treatment. A few months later a nodule developed on the left cheek which gradually disappeared after a few months. At age 22 swellings occurred on both cheeks and the red scaly rash became more marked. Treatment with gold injections produced some improvement.

She was first seen in April 1954 at the age of 24. She had then a striking cadaverous appearance due to deep depressions in the skin of the cheeks at the site of the nodules which had been present two years earlier. There was a similar depression on the left forearm. Typical lesions of discoid lupus erythematosus were present on the bridge of the nose and malar part of the cheeks. Three new swellings had recently developed on the scalp, forehead and right cheek. They were $\frac{1}{2}$ in. in diameter, slightly tender, firm, sharply defined, mobile subcutaneous lesions. The overlying skin was unaltered. No other abnormalities were detected on clinical examination.

She was admitted to hospital and an *Esch. coli* infection of the urine was treated and a number of grossly infected teeth were extracted.

Investigations: W.R. and Kahn: Negative. Hypochromic microcytic anaemia. No L.E. cells found. Mantoux: 1 in 1,000, negative; 1 in 100, positive. Skiagram of chest and hands: Normal. Serum proteins: Normal.

Histology (swelling on the forehead) (Dr. H. Haber).—There is marked follicular plugging with hyperkeratosis of the epidermis. Whereas the upper and mid cutis exhibit a mild perivascular and periacinous round-cell infiltration, the lower cutis and the fat tissue show a considerable round-cell infiltrate. The features described are quite in keeping with the diagnosis of lupus erythematosus profundus.

Progress.—After treatment with mepacrine and later chloroquine (up to 400 mg. daily) the subcutaneous lesions disappeared in six weeks and the discoid lupus erythematosus responded after eight months. She remained well for over a year, but was readmitted in October 1955 because two new nodules had developed on the right shoulder. These were identical both clinically and histologically with the earlier lesions.

Comment.—The diagnosis of lupus erythematosus profundus has been criticised by Pautrier (1953, 1954) who considers that the subcutaneous lesions occurring in association with discoid lupus erythematosus elsewhere on the skin are typical of Darier-Roussy sarcoid, but in our patient there is neither clinical nor histological evidence for that diagnosis. Bechet's lupus erythematosus hypertrophicus et profundus can also be excluded by the absence of severe epidermal changes.

Our patient has had recurrent subcutaneous nodules for ten years and discoid lupus erythematosus for seven years. The histology of the deep lesions shows a non-suppurative panniculitis which is followed by fat atrophy, and although the overlying skin appears normal there are microscopic changes in the epidermis and cutis suggestive of lupus erythematosus.

This finding in association with the typical lesions of discoid lupus erythematosus elsewhere supports the view held by Irgang (1940, 1954) and Arnold (1948) that the subcutaneous lesions are part of the same disease process.

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Nodular Dermal Allergide of Gougerot.—Dr. Eric Waddington.

A woman aged 21.

Previous Health.—Good with the exception of tuberculous cervical adenitis at the age of 7.

History.—Eleven years ago she developed a recurrent non-irritating eruption on the legs. The attacks were most severe during cold weather. The rash consisted of raised pink spots and blotches which persisted for a few weeks and then faded, leaving a brown stain. There was an interval of 2 to 3 months between the attacks. Four years ago the arms were affected.

Three years ago, in addition to the original rash, raised reddish-brown patches appeared on the ankles and feet. A number of these lesions have disappeared, but new patches continue to develop.

On examination (*August* 1953).—She was obese with marked acrocyanosis. There was a pleomorphic eruption on the extensor aspects of the arms and on the legs below the knees, consisting of purpuric and erythematous macules and small firm pink nodules. On the front and sides of the ankles and dorsa of the feet and toes were raised cyanotic and reddish-brown plaques with a well defined edge resembling the plaque type of granuloma annulare. Pigmented patches were present at the sites of previous lesions.

Investigations.—W.R. and Kahn : Negative. Blood Count : Normal. Skiagram of nasal sinuses showed a polyp in the right frontal sinus with mucosal thickening. Fasting blood sugar : 128 mg. % (March 1955).

Histology.—(*Plaque on foot*) (Dr. H. Haber).—The epidermis shows marked acanthosis with irregular downgrowth of rete pegs. The cutis shows an increase of vessels, fibrosis and scattered round-cell and polymorphonuclear infiltrate. The characteristic features are the changes in many vessels of the upper and mid-cutis exhibiting thickening of their walls, swelling of the endothelial lining leading to narrowing of the lumina, and some fibrinoid changes in the walls. The walls themselves show a marked infiltration consisting of polymorphonuclear leucocytes and an occasional eosinophil.

Progress.—She has been under observation for three years. The small nodules, purpura and erythematous macules persist for three to six weeks at a time, but the plaques on the feet last for many months and leave heavily pigmented areas. The attacks are more severe in winter. During the last year the acrocyanosis has been less marked and the rash on the arms and legs has disappeared, but she still has occasional lesions on the feet.

In June 1955 she developed diabetes mellitus. The improvement in the skin has been maintained.

Comment.—This patient has the characteristic lesions described by Gougerot, including the rare hypodermic infiltrated plaques which show the typical microscopic changes in the vessels. The marked improvement which occurred when the acrocyanosis disappeared suggests that in our patient the lesions were due to a hypersensitivity of the cutaneous vessels to cold.

Osteoma Cutis.—Dr. Geoffrey Hodgson.

A girl aged 18 months.

This child exhibits a band-like lesion spreading from the midline across the chest down the inner aspect of the left arm to the bend of the elbow. The lesion was present at birth, and has now become less marked.

The clinical appearance at first suggested a band-like scleroderma, but the biopsy showed true bone formation and the condition has been accepted as an osteoma cutis.

Histology (Dr. H. Haber).—The epidermis looks normal. The midcutis shows newly formed osseous tissue and a small foreign-body granuloma. In view of the history of the case this finding appears to indicate a bony metaplasia of changed collagen rather than osteoma.

BOOK REVIEWS.

Atopic Dermatitis.*

This is the reprint of a symposium which was published in the *American Practitioner and Digest of Treatment* in 1955 and is by various authors. Sections are contributed by Drs. Baer, Sulzberger, Kierland, Rostenberg, and Sternberg and Newcomer. As Dr. Baer points out, this method of writing means that various, and sometimes conflicting, viewpoints are contained in the same volume and indeed on this particular subject one could hardly imagine otherwise. The book is short and all the sections are written concisely and with considerable economy of words ; although the book can be read with interest by any physician, it is probably chiefly for dermatologists and is definitely a book for grown-ups. It is a consideration mainly of the problems presented by atopic dermatitis and a ruthless discussion of theories. It is an interesting, thought-provoking little book and is strongly recommended.

F. R. B.

Therapeutic Accidents in Dermatology.†

It is significant that this French account of therapeutic accidents follows within a few months of an American book on the same subject ; reading them one wonders that we have the courage to prescribe many modern drugs and the patients the faith to swallow them. The present publication is an account of a colloquium held in October, 1954, at Marseilles under the direction of Professor Charpy. Cutaneous reactions to drugs are discussed from all aspects in great detail and various rather involved hypotheses proposed especially by Huriez and by Charpy. The latter expounds his theory that antigen-antibody reactions are of only secondary importance and that sensitization is due to permeation of the neuro-vegetative system by the active substance, the manifestations being due to nervous reflexes with the release of chemical agents. All agree that " erythema of the ninth day " is no longer explained by biotropism. The field covered is wide, from vaccines to mepacrine and dermatoses caused by yeast-like organisms during antibiotic therapy, and of course dermatitis from local treatment. Each section is followed by an extensive bibliography fairly representing the world literature. This is a useful book of reference and stimulating to those who are interested in possible theoretical aspects of sensitivity reactions.

F. F. H.

Late Yaws.‡

Although this study is based on only 121 personally investigated cases in the province of Minas Gerais, the material is well selected and illustrates all the author's points. The literature is well surveyed and results are set out in an easily accessible form. This book is a scholarly exposition and will be of great help to all who are

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* *Atopic Dermatitis.* Rudolf L. Baer. (1955). London : Pitman Medical Publishing Co. Pp. 112. Figs. 5. Price 20*s*.

† *Accidents Therapeutiques en Dermatologie.* Published under the direction of J. Charpy (1955). Paris : Masson & Co. Pp. 342. Figs. 42, with 23 plates. Price 2000 francs.

‡ *Manifestaçoes Tardias da Framboesia* (Late Manifestations of Yaws). By Tancredo A. Furtado (1955) Pp. 251, 159 illus., 17 tables. English summary. Belo Horizonte, Brasil : Imprensa oficial.

engaged in the study of treponematoses. Readers of this Journal will probably be most interested in Chapter VI ; here the histopathology of late yaws is well summarized and illustrated, with legends in English as well as Portuguese. L. J. A. L.

Dermatomyositis.*

Thirteen cases, including 4 in children, are reported here. In 8 causative factors are cited, ranging from leg ulcer to psychic trauma (this was a 47-year-old woman, whose mother's death, 6 months before, had upset her considerably). Current views on aetiology and suppressive treatment by ACTH and cortisone are expressed.

L. J. A. L.

CORRESPONDENCE

The Editor, 'The British Journal of Dermatology.'

Sir.—For many years patch-testing in contact dermatitis has been in disrepute in this country. These tests are performed relatively rarely in most hospitals ; and many industrial medical officers do, I believe, feel that the results are so unreliable and so difficult to interpret that the tests are of little use. This view cannot be supported. But there are difficulties in interpreting the tests and they arise mainly in separating false positive reactions from those due to specific allergic sensitivity. With some substances it may be well-nigh impossible to decide whether a positive patch test is false or not—as, for example, with propylene glycol (Warshaw and Herrman, *J. invest. Derm.*, **19**, 423). False positive reactions may occur at quite weak dilutions, and show great variations ; and at the same time negative reactions in control patients do not necessarily rule out a false positive. A patient may react while in " status eczematicus ", but not subsequently.

I fear that an erroneous impression may be gained from the paper by Dr. Twiston Davies and Dr. Morgan (*Brit. J. Derm.*, **68**, 41). Some of their cases of " epidermal sensitivity " deal with substances whose patch test results are, in my experience, very difficult to interpret—namely, shampoos and soluble oils. One man was " positive " to dirty Mystic oil but negative to clean oil. There is no proof that the additional material in the dirty oil was not acting as a primary irritant.

A number of industrial medical officers maintain that after recovery from contact dermatitis men may continue to handle a substance to which they are allergic. If a man is genuinely allergic he will certainly develop a recurrence, and he should not be allowed to return to the same work.

I am, Sir,
Yours, etc.,
C. D. Calnan.

London,
19 March, 1956.

The Editor, 'The British Journal of Dermatology.'

Sir.—In the November issue of the *British Journal of Dermatology* (**67**, 402), Dr. M. J. Scott reports a case of a bullous, hyperkeratotic, pigmentary eruption which he classifies as Asboe-Hansen's "Bullous keratogenous and pigmentary dermatitis with

* *Dérmatomiositis* (*Dermatomyositis*). By Julio M. Borda and Sergio G. Stringa. (1955) Pp. 146, 36 illus. Summaries in French, English and German. Buenos Aires : " El Ateneo ".

blood eosinophilia in newborn girls " with incontinentia pigmenti. According to Scott the syndrome described by Asboe-Hansen must be differentiated from incontinentia pigmenti. However, as Scott has observed both conditions in the same patient, he ponders the possibility that they are " related ectodermal anomalies ", or " variants of some congenital ectodermal defect ". There are good reasons to accept the latter assumption, and to consider the various symptoms of Dr. Scott's patient as manifestations of a single general syndrome. Dr. Scott's case fits in very well with the bullous variety of incontinentia pigmenti described, among others, by Carney (*Arch. Derm. Syph., Chicago*, **64**, 126) and by Epstein, Vedder and Pinkus (*Arch. Derm. Syph., Chicago*, **65**, 557). These authors emphasize the linear arrangement of the bullae, the marked eosinophilia of the blood, as well as in the blisters, and the hyperkeratotic or warty lesions of this form of incontinentia pigmenti. The histologic description of the bullous stage of Dr. Scott's case also is nearly identical with that described by Epstein, Vedder and Pinkus.

That the cases presented by Asboe-Hansen also may be a manifestation of incontinentia pigmenti has been assumed by Asboe-Hansen himself (*Arch. Derm. Syph., Chicago* **67**, 152). He wrote as follows : " These cases may be varieties of the disease described by Wilson, Rothwell, and Willi and Burckhardt as dermatitis herpetiformis of the newborn ; by Haxthausen as lichenoid partly bullous skin affection of a newborn infant, and by Heilesen, Carney, and Epstein, Vedder and Pinkus as incontinentia pigmenti ". The assumption that Asboe-Hansen's cases belong to incontinentia pigmenti is supported by a follow-up of the cases presented as dermatitis herpetiformis of the newborn by Wilson (*Arch. Derm. Syph., Chicago*, **44**, 58), and Willi and Burckhardt (*Kinderärztl. Prasis*, **12**, 144) ; it turned out that they actually were instances of incontinentia pigmenti.*

Dr. Scott's case provides another connecting link between the more fully developed cases of incontinentia pigmenti and the entity described by Asboe-Hansen, which appears to be a *forme fruste* of the bullous variety of incontinentia pigmenti.

It is true that the designation incontinentia pigmenti is not adequate for a syndrome that contains such a vast number of signs of ectodermal and mesodermal defects, which may even include chondrodystrophia calcificans congenita (H. O. Curth *J. invest. Derm.*, **13**, 233). It is also true that the pigmentary aberration is only one element of the disorder, and perhaps even a minor one. However, incontinentia pigmenti is a fetching term which brings to mind just this particular syndrome. In spite of its inadequacies it has been generally accepted ; it would only lead to confusion to change it now.

Yours etc.,

STEPHAN EPSTEIN, M.D.

Marshfield,
Wisconsin, U.S.A.
21 March, 1956.

The Editor, 'The British Journal of Dermatology.'

THE THREE-DIMENSIONAL DIAGNOSIS OF SKIN DISEASE.

SIR.—Dr. J. H. Twiston Davies (or should I say " j (H) [t.d] ?), that Mancunian dermato-philosopher and wit, is to be congratulated on conceiving, delivering and nurturing a new Child of Dermatological Classification (*British Journal of Dermatology*, January 1956, p. 22), in spite of the fact that so many ill-begotten specimens of that ilk have already waned and died in infancy and have been given a decent burial, with no one wishing to exhume them. It is not possible to discern at this stage whether T.D.'s progeny will turn out a Marvel or just another Monster.

* Personal communication from Dr. Donald J. Wilson, Omaha, and from Professor W. Burckhardt, Zurich.

Anything written by Dr. Twiston Davies is worth reading, whether it be an erudite article or a book review. It is true that there are times when he shows leanings towards orthopaedics and seems to be applying gentle crural traction to his colleagues ; but there is always something in what he says to enlighten the dullest day. Opening the Journal, one turns first to his dicta as one might turn to the fourth leader of *The Times*, and the editor has now honoured him with just such a position in our journal.

Four is certainly the operative number in other respects because T.D. has confused CinemaScope with 3-D, and he has also forgotten to allow for the fourth dimension. Surely T.D.'s three dimensions—the patient, the doctor and the patient's disease—are, like algebraic dimensions, only " a number of unknown quantities contained as factors in a ' product ' " (Concise Oxford Dictionary). To these factors should be added a fourth factor—the environment. Each of these four factors has four dimensions, thus :—

The doctor has length, breadth and, alas ! thickness (e.g. J.H.T.D. or B.F.R.), and his knowledge and concepts of disease and its management alter (we hope) throughout his professional life.

The patient is also four-dimensional and reacts in his skin according to the distance in time he has travelled from the womb to the tomb. The same strain of staphylococcus may cause pemphigus in the newborn, impetigo in the child, and a banal crusting in an adult.

The disease : Even a scratch has some breadth and depth as well as length ; and further, the prurigo of to-day may be a pyoderma to-morrow and a penicillin dermatitis ten days later, not to mention an associated xeroderma which is present in all these phases.

The environment, both physical and psychological, is in a perpetual state of flux, as is also the " internal environment " of endocrine and other changes.

It follows that the diagnostician (= one who understands the patient through and through) can either record with a label what he thinks is the most important aspect of the case at the time of examination, or he can rely on a sequential portrayal of events, by means of arrows, thus :

In its simplest form : Xeroderma → alkali dermatitis.

Or, more complicated : Pes planus and overcrowding of the toes → sweat retention → intertriginous dermatitis → tinea pedis → eczematide of hands → infected eczema → lymphangitis and lymphadenitis → sulphonamide rash → anxiety reaction → hyperidrosis pedis. (This is where we came in.) Is this coded as tinea pedis, as infective dermatitis, or as a toxic erythema ?

The permutations and combinations of the four factors and four dimensions are enormous. In its simplest form, one can visualize two types of each factor, where

A (Aesculapius) = good or successful doctoring
a = bad or unsuccessful doctoring
B (Beneficiary) = recovered or co-operative patient
b = sick or unco-operative patient
C (Circum) = good environment
c = bad environment
D (Disease) = dead, deteriorated, dermatitis iatrogenica, disappointed, disgusted
d = disease when treatment was begun
H (Hygeia) = health
L = litigation

Two example formulae follow :—

$$b\,c\,d + A = B\,C - A\,d = H$$
$$b\,c\,d + a = b\,c\,D \pm a \pm L$$

I was both amuSed (S = stimulated) and beMused (M = low I.Q.) by T.D.'s punch card system. A registrar is, by definition, a person charged with keeping a register ; but in these days of Records Departments it is possible to have one's patients' diagnoses classified by the clerks, using the World Health Organisation Classification. In this, tuberculosis of the skin is 014, a primary complex 014·0, erythema nodosum 014·1, lupus vulgaris 014·2, and tuberculides 014·3, with 014·31, 014·32, etc., for subvarieties thereof. Similarly, psoriasis is 706·0, parapsoriasis is 706·1, and the parapsoriatic subvarieties, real and imagined, 706·11, 706·12, etc.

Mistakes and duplications can occur with this system as with most others, but it can proceed automatically, once the recording clerks have been notified of synonymic priorities—for example, that asthma-eczema-prurigo and flexural eczema and prurigo are to be recorded as Besnier's prurigo. Any queries about diagnoses (perhaps 1–2%) are brought to the notice of the registrar for his decision.

There may be those who would like to take study leave to observe T. D.'s methods at first hand, preferably during the International Congress of Cricketers at Manchester, 26 to 31 July. Incidentally, has T.D. ever considered adapting his system to cricket statistics ? Most catches in a career ? Simple ! Woolley 913, Grace 871. A punch card and needle system should prove even more fascinating than the 1000 pages of Wisden.

Yours, etc.,

Brian F. Russell.

The Editor, ' The British Journal of Dermatology.'

Sir.—I am very happy to accept all Dr. Russell's criticisms of my article on 3–D diagnosis and I am most grateful to him for his stimulating suggestions. For those of them that are going to be used in the improvement of an article on 4-dimensional pathology already in preparation let this be my acknowledgement.

Yours, etc.,

J. H. Twiston Davies.

Chester,
15 March, 1956.

CURRENT LITERATURE.

ELECTROPHORETIC COMPARISON OF SERUM AND BLISTER FLUID IN BULLOUS DERMATOSES. R. Haensch. (1955) *Derm. Wschr.*, **132**, 1327.

Though the total contents of protein in the fluid from lesions of a great variety of bullous dermatoses is always lower than that of the serum the same fractions were always found in either fluid. Quantitative variations were insignificant. W. G. T.

MULTIPLE BASAL-CELLED TUMOURS OF THE SKIN FOLLOWING TRAUMA IN A PATIENT WITH A DEVELOPMENTAL ABNORMALITY. S. Mempal. (1955) *Derm. Wschr.*, **132**, 1331.

Report of 89 partly pigmented, partly cystic basal-celled tumours developing in a patient who had suffered from war injuries and who had an epidermic cyst of the mandible with a family history of this latter condition. The first basal-celled tumours developed in the area of injury which had later been irradiated because of the cyst. Trauma, irradiation and embryonic defect are factors considered in the causation of the tumours. W. G. T.

ADVANCES IN THE TREATMENT OF SKIN DISEASES. B. Russell. (1955) *Practitioner*, **175**, 385.

The control of cutaneous infection depends on satisfactory hygienic standards, elimination of nasal carriage and the clearing up of any secondary reservoirs of infection. Neomycin is effective against pyogenic staphylococci but occasionally causes eczematous reactions, whereas tetracyclines locally rarely have this effect. Corticotropin and cortisone are useful suppressants in dermatological therapy and hydrocortisone is most valuable for controlling itchy dermatoses. The value of dapsone in dermatitis herpetiformis is now established, as is the use of chloroquine in lupus erythematosus and other light-sensitivity eruptions. Antihistamines may produce contact dermatitis when used topically, but are of great value when taken by mouth. The use of euphorients such as dexamphetamine, and both chlorpromazine and reserpine, in depressive states is discussed.

In housewives' dermatitis detergents act primarily as irritants and in this type of dermatitis only rarely sensitize the skin. Prevention consists essentially of avoiding hot, strong and long exposures, the use of rubber gloves, the replacement of lost fat with hand creams and the use of barrier creams. R. J. C.

CORTISONE AND CORTICOTROPIN IN DERMATOLOGY. W. N. Goldsmith. (1955) *Practitioner*, **175**, 569.

Cortisone and corticotropin cause moderate inhibition of the *delayed* type of allergic response, whereas the *wheating* reaction is unaffected. On *patch tests* they slightly diminish the reaction at the sites of applications of weak concentrations of allergens, although clinical benefit is often much greater than would be expected from experimental observations. In general these hormones should not be used alone but combined with, or as a preliminary to, other remedies. Complete disappearance of signs and symptoms may require a much larger dose than is needed to bring the disease to bearable, non-incapacitating proportions. These hormones are the best available treatment for pemphigus vulgaris, acute systemic lupus erythematosus, dermatomyositis and drug erythrodermas. In certain severe, acute, self-limited, inflammatory dermatoses, such as drug eruptions, contact dermatitis, erythema multiforme and zoster, symptomatic relief may be obtained while the disorder runs its course and cures itself. They are of temporary benefit in certain chronic but not serious dermatoses, such as atopic dermatitis, acute idiopathic eczema and erythrodermic psoriasis.

Externally applied, hydrocortisone is particularly useful in anogenital pruritus and affections of the eyelids and ears. R. J. C.

ADVANCES IN ALLERGY. D. A. Williams. (1955) *Practitioner*, **175**, 435.

Cortisone may be of great value for its temporary benefit in infantile eczema, and local application of hydrocortisone ointment is often followed by rapid improvement. Rapid successful desensitization of allergic subjects may be obtained with a cortisone or corticotropin cover, although occasionally corticotropin itself produces allergic reactions. Both cortisone and hydrocortisone, as well as corticotropin, can bring much symptomatic relief in the acutely or intractably ill allergic patient and in relieving asthmatic attacks. R. J. C.

THE SERUM MUCOPROTEIN LEVEL IN VARIOUS DISEASES OF THE SKIN. J. P. E. Burbach. (1955) *Dermatologica*, **111**, 65.

Serum mucoprotein values in 338 patients with various dermatoses are reported. From these data the following conclusions are drawn :

(1) No significant difference can be detected between the mucoprotein (MP) values of the subgroups of eczema, dermatitis and psoriasis with limited involvement of the skin (less than $\frac{1}{4}$) and those of the control group.

(2) In the same dermatoses more extensive involvement is generally reflected in an increase of the MP value.

(3) Pyogenic infections and internal complications likewise raise the MP values.

(4) In the presence of severe inflammatory processes the MP values are generally greatly increased.

(5) Bullous dermatoses, especially pemphigus malignus and to a lesser degree pemphigoid, generally give raised MP values.

(6) Comparison of these findings with those obtained by other investigators by means of chemical fractionation and electrophoresis show a distinct parallelism.

(7) The deviations of the MP values are more pronounced than the changes in the electrophoretic alpha-1 globulin values obtained by other investigators, especially in the dermatitis and eczema group, and in psoriasis.

(8) Serum MP values may occasionally give a valuable addition to the clinical picture.

J. F. S.

THE LICHENOID FORM OF BOECK'S SARCOID. M. Thal. (1955) *Dermatologica*, **111**, 87.

Two cases are presented which showed extensive eruptions, clinically strongly suggesting lichen planus, but histologically beyond doubt sarcoid. The author has collected a surprisingly large number of previous reports of this condition. J. F. S.

ASTEROIDS IN LUPUS VULGARIS. E. Macher. (1955) *Dermatologica*, **111**, 93.

In a patient with lupus vulgaris clinically and histologically definite, asteroids were found in large numbers in the protoplasm of the giant cells. With this observation the view that the asteroids are specific for sarcoid is opposed. They are taken to be degeneration products of the central apparatus, such as can arise in ageing giant cells. Fundamentally, they can appear in any giant cell, but it is indisputable that they tend to be very numerous in Boeck's disease.

J. F. S.

CATERPILLAR DERMATITIS AS AN OCCUPATIONAL DISEASE. I. Katzenellenbogen. (1955) *Dermatologica*, **111**, 99.

A description is given of *Thaumatopoea pinivora Wilkinsoni* caterpillars infesting pine trees and a caterpillar dermatitis appearing in 26 workers engaged in the manual removal of caterpillar nests. In ten cases the dermatitis was accompanied by mild conjunctivitis. Tests have shown that dead and living caterpillars alike can cause the dermatitis. There was no proof of caterpillar dermatitis without direct contact with nests or caterpillars. Histological examination failed to show that caterpillar hairs remain in the skin. J. F. S.

THE INNERVATION OF THE SKIN APPARENTLY TAKES NO PART IN SENSITIZATION TO DINITROCHLOROBENZOL. J. Ramos e Silva. (1955) *Dermatologica*, **111**, 1.

Recent literature shows that the Marseilles school (J. Charpy) considers that the sensory nerve-endings in the skin, and the vegetative nerve fibres play the chief part in the sensitization which occurs in allergic contact eczema. The author therefore made the experiment on six patients

with anaesthetic lepra of applying a 10% solution of dinitrochlorbenzol in acetone both to anaesthetic and to normal patches of skin. In both cases, sensitization occurred in an exactly equal manner. Furthermore, tests made later on the anaesthetic and normal areas were exactly equally positive. These results speak against any considerable participation of the nervous system in the process of sensitization. J. F. S.

RECURRING ERYSIPELAS OF THE LOWER EXTREMITIES AND ITS RELATION TO TINEA PEDIS. A. Dostrovsky and F. Raubitschek. (1955) *Dermatologica*, **111**, 14.

Several authors have suggested that some cases of recurrent erysipelas of the legs are due to fungous infection, and not to streptococci, and Dostrovsky and Raubitschek have carried out some investigations on the subject. Their conclusions are :

(1) No clinical differences were detected between cases of relapsing erysipelas of the lower extremities and erysipelas of other localities.

(2) Three case reports of acute attacks of relapsing erysipelas of the lower limbs are presented. Results of clinical, bacteriological and mycological examinations are reported.

(3) Haemolytic streptococci were recovered from biopsies of the actively progressing border zone of the lesions, and from normal skin beyond this zone as well, done during the first 24 hours of the disease. In histological sections streptococci were found in the lymph spaces. No fungal elements were seen in the slides.

(4) Fungi were found in the mycotic lesions of the feet.

(5) No difference was seen between the skin of a healed erysipelas and the skin of an uninvolved leg or arm in its response to an intracutaneous trichophytin test. In no case did the reaction resemble erysipelas. J. F. S.

SERUM IRON IN VARICOSE BLOOD AND ITS RELATIONSHIP TO DERMATITE OCRE OF FAVRE AND CHAIX. G. Hilt. (1955) *Dermatologica*, **111**, 30.

Investigations on whether an increase of serum iron caused by venous stasis in the lower leg could lead to the occurrence of the *dermatite ocre* of Favre and Chaix produced the result that no relationship exists between the amount of serum iron and the intensity of the dermatitis. Its occurrence is more likely to depend upon a local disturbance in equilibrium of the protein substrate, which makes the fixation of iron in a stable form possible. J. F. S.

THE INFLUENCE OF ADRENOCORTICAL HORMONES ON DERMATOMYCOSES. G. Cremer. (1955) *Dermatologica*, **111**, 285.

In four cases of Cushing's syndrome, two idiopathic and two due to cortisone treatment of thrombocytopenic purpura, concomitant fungal infections became notably worse. In one, a very extensive infection with *T. mentagrophytes*, the trichophyton test was negative, though it was strongly positive in nurses infected from this patient.

(Slightly modified from author's summary.) J. F. S.

THE TREATMENT OF DISFIGURING DERMATOSES WITH ROTATING INSTRUMENTS. E. H. Hermans, Junr. (1955) *Dermatologica*, **111**, 294.

A description of the methods used for some five years in the Rotterdam Clinic, with a survey of the types of disease treated, and the usually good cosmetic results. J. F. S.

THE MECHANISM OF CORNIFICATION IN PARAKERATOSIS, PARTICULARLY IN PSORIASIS. J. H. Ligterink. (1955) *Dermatologica*, **111**, 301.

Protein fractions obtained from psoriatic scales were checked with corresponding fractions from hyperkeratotic human skin, commercial keratin and lenses from cows, by paper-chromatography, paper-electrophoresis, and by estimations of the pH at which coagulation occurred, and of the tryptophane-tyrosin ratio. Evidence was found that proteins of psoriatic scales differ widely from those of keratins, but that they show a constant and striking similarity to the a-crystalline fraction from cows' lenses. The possibility is put forward that in psoriasis, and perhaps in parakeratosis generally, cornification stops in the reductive phase, which is normally followed by an oxidative one, required for the production of keratin. This persisting reductive phase might be due to a (congenital) deficiency in carbohydrate and fat metabolism, resulting in a H_2O_2 deficiency.

J. F. S.

PODOPHYLLIN TREATMENT IN VARIOUS SKIN DISEASES. J. Shanon and F. Sagher. (1955) *Dermatologica*, **111**, 319.

(1) Following treatment with 25% podophyllin in acetone or collodion 11 out of 18 cases of carcinoma of the skin were cured clinically and remained cured during an observation period of two and a half to three and a half years. The clinical cure was confirmed histologically in all cases. Treatment with podophyllin may be tried in selected cases of skin carcinoma, despite the limited experience to date. The control period is still too short to judge the ultimate results.

(2) A series of cases with pyogenic granuloma, seborrhoeic warts and senile keratosis responded well to podophyllin treatment, while patients with verruca vulgaris did not respond. Cases of localized neurodermatitis responded to therapy but showed much tendency to relapse.

(Authors' summary.) J. F. S.

THE TREATMENT OF PLANTAR HYPERIDROSIS. R. Brun. (1955) *Dermatologica*, **111**, 316.

By means of a practical test for the estimation of plantar sweating, Brun has demonstrated that a 14.5% aluminium chloride cream with a surface active agent was able to decrease the sweating of the foot. J. F. S.

LUPUS ERYTHEMATOSUS IN THE TROPICS. K. D. Lahiri. (1955) *Ind. J. Derm.*, **1**, 15.

This is a comprehensive account of L.E. and its literature. The only tropical pecularity is its rareness, particularly the acute disseminated variety, which is almost unknown. Seventy-three chronic cases are reported. R. D. S.

LEPROSY AND ANTI-LEPROSY ACTIVITIES IN INDIA. S. N. Chatterjee. (1955) *Ind. J. Derm.*, **1**, 29.

There are estimated to be 12 million lepers in India, and all down the east coast the incidence is estimated at over 5 per 1000 of the population. The author briefly outlines the facilities available for its treatment in the various states. R. D. S.

CUTANEOUS NOCARDIASIS IN INDIA. D. Panja and A. K. Banerjee. (1955) *Ind. J. Derm.*, **1**, 39.

An interesting and well documented report of a case involving the anterior abdominal wall. X-rays seemed to help when all the antibiotics had failed, but the patient ultimately died. R. D. S.

TREATMENT OF ANTHRAX IN MAN. H. Siadat and A. Mashhoon. (1955) *Antiseptic*, **52**, 831.

"Over 150 patients suffering from anthrax receive treatment at the Infectious Service of the Firoozabadi Hospital every year." The Persian authors therefore speak from experience! Being dissatisfied with the slow response of malignant pustules to penicillin and sulphonamides, with consequent prolonged hospitalization and unsightly scars at the end of it, they tried chloramphenicol instead, 0·5 gm. four-hourly and in some cases locally as well, and report the results in 21 cases.

The results were excellent in every one. Fever and oedema subsided within 48 hours, a dry scab was present after 72 hours, by which time anthrax bacilli could no longer be grown from the lesions, and healing with very slight scarring was usually complete in 10 days. These patients no longer need admission to hospital. R. D. S.

A STUDY OF ACQUIRED CHILDHOOD SYPHILIS IN MADRAS. R. V. Rajam, P. N. Rangiah and C. N. Sowini. (1955) *Ind. J. Derm. Ven.*, **21**, 117.

In the slums of Madras acquired syphilis in young children is very common. Primary chancres are not often seen and most cases present with muco-cutaneous lesions on the face and anogenital regions. These children are otherwise usually quite fit, florid cutaneous or osseous lesions are rare, and this clinical picture closely resembles Bejel.

The source of infection was thought to be familial and non-venereal in most cases. Families are described in which the parents had venereal syphilis; the older children were free from infection or acquired it venereally later and younger ones acquired it looking after the youngest of all who were congenital syphilities, there being an occasional stillbirth or two in between.

R. D. S.

ONYCHOMYCOSIS CAUSED BY SPECIES OF THREE SEPARATE GENERA. REPORT OF A CASE WITH A STUDY OF A SPECIES OF HYALOPUS (CEPHALOSPORIUM). M. Moore. (1955) *J. invest. Derm.*, 24, 489.

At the patient's second visit *T. rubrum* was isolated in addition to the unfamiliar one mentioned in the title, the third being *Candida*.

Hyalopus "created" by Corda, and in the same manner of speaking "christened" *onychophilus* by Tarentelli, here receives the expert attention of a cryptogamic botanist.

J. H. T. D.

DOES THE GLASS ELECTRODE DETERMINE THE SAME PH VALUES ON THE SKIN SURFACE AS THE QUINHYDRONE ELECTRODE? C. G. Schirren. (1955) *J. invest. Derm.*, 24, 485.

Yes it does. The author's original paper has evidently been translated by somebody without much knowledge of scientific terminology. For while some of us may not need any help with "interfering influences may have to be led down to the ground", few will guess the purpose of the "diving measuring chains". Many excellent journals feature a crossword puzzle, but they normally allow it to be distinguished from the news. J. H. T. D.

FAILURE TO TRANSFER ALLERGIC ECZEMATOUS HYPERSENSITIVITY FROM MAN TO GUINEA-PIG. S. A. Rosenthal, J. Z. Litt and R. L. Baer. (1955) *J. invest. Derm.*, 24, 483.

Contact type allergic sensitivity (A.S.) is reported to have been transmitted by intraperitoneal injection of leucocytes between animals of the same species (guinea-pigs); and urticarial A.S. from man to animal. Attempts to produce local contact type A.S. in man by injecting intradermally the leucocytes of sensitized individuals have so far failed.

In these experiments were tested 5 patients of whom 4 were allergic to nickel and 1 each to turpentine, resorcin, and paraphenylenediamine. J. H. T. D.

DELAYED HYPERSENSITIVITY IN EXPERIMENTAL FUNGUS INFECTIONS. THE SKIN REACTIVITY OF ANTIGENS FROM THE YEAST PHASE OF BLASTOMYCES DERMATITIDIS. J. E. Dyson and E. E. Evans. (1955) *J. invest. Derm.*, 24, 447.

The object of this research is an antigen of high specificity and chemical purity. The most satisfactory antigens were those precipitated with 67% ethyl alcohol at 5° C. from the broth in which the organisms were growing. No satisfactory antigen was obtained from the yeast itself by any of the methods used. J. H. T. D.

THE IN VITRO SENSITIVITY OF BLASTOMYCES DERMATITIDIS TO SIX DIAMIDINE DERIVATIVES. S. McMillen, D. S. Kushner and I. Snapper. (1955) *J. invest. Derm.*, 24, 455.

Difficulties arise from the instability of solutions, their intolerance of heat, adsorption of the drug by filter paper, incompatibility with nucleic acids and, in general, the materials used for the enrichment of culture media that is necessary for propagation of the yeast phase.

The authors have nevertheless managed to obtain significant and reproducible results which indicate that aminostilbamidine, clinically objectionable because it stains the skin yellow, is the best so far *in vitro*. J. H. T. D.

FORMATION OF LARGE NUMBERS OF "LUPUS CELLS" FROM ONE DROP OF PERIPHERAL BLOOD. I. Snapper and D. J. Nathan. (1955) *J. invest. Derm.*, 24, 473.

If a few drops of normal blood are incubated on a slide within a rubber ring in a moisture-laden atmosphere, leucocytes escape from the clot and adhere to the glass. The preparation remains fit for use for 10 days.

A hanging drop of blood to be tested is then brought into contact with the little circular patch of leucocytes and incubated for 1 hour at 37° C. The coverslip is kept at the right distance from the slide by means of fragments of a coverslip of exactly the right thickness.

Nineteen out of 20 cases of systemic L.E. provided numerous L.E. cells of a kind peculiar to this method. The single failure was in a case in which only one solitary L.E. cell had ever been demonstrated by other methods. J. H. T. D.

HORMONAL EFFECTS ON SEBACEOUS GLANDS IN THE WHITE RAT. III : EVIDENCE FOR THE PRESENCE OF A PITUITARY SEBACEOUS GLAND TROPIC FACTOR. N. Lasher, A. L. Lorincz and S. Rothman. (1955) *J. invest. Derm.*, **24**, 499.

Ablation of the pituitary and ovaries of a rat produces sebaceous atrophy irreversible by progesterone but to some extent spared by testosterone.

Piecemeal restoration of the pituitary secretion in the form of commercially isolated hormones ACTH, FSH, STH, pituitrin S, pitressin, prolactin and APL (chorionic gonadotropin) all failed to restore to the sebaceous glands any of their normal response to progesterone ; the last three appear to have inhibited the residual response to testosterone. Gonadotropins, on the other hand, derived from serum or urine of pregnant mares (e.g. Synapoidin and Gonadogen) appear to contain some of the relevant hormone.

Of " several crude fractions from hog anterior pituitaries," prepared at the authors' request, two—and one of them not having much gonadotropic effect—were found to contain enough of the " sebaceous gland tropic factor " to restore the progesterone and in part the testosterone reaction. Thus it looks as if there may be a separate hormone for sebaceous activity. Possibly it is secreted in excess in certain cases of mid-brain damage, and the authors speculate that it might be employed in the treatment of tinea tonsurans. But how is it that progesterone has received so much praise as a remedy for acne ? Possibly it acts in entire animals by inhibiting the secretion of this new hormone. J. H. T. D.

COMPARATIVE HISTOCHEMICAL OBSERVATIONS OF WOUND HEALING IN ADULT RATS AND CULTURED ADULT HUMAN EPITHELIUM. III : ALKALINE AND ACID PHOSPHATASE. W. W. Washburn. (1955) *J. invest. Derm.*, **24**, 537.

Acid phosphatase is never found in the corium but both kinds occur in the granular layer of the epidermis during keratinization. Alkaline phosphatase occurs in healing burns in the neighbourhood both of disintegrating leucocytes and of proliferating fibroblasts. It is believed that such staining of the collagen as was observed should be attributed to diffusion.

J. H. T. D.

HISTOCHEMICAL DEMONSTRATION OF MONOAMINE OXIDASE IN HUMAN SKIN. W. B. Shelley, S. B. Cohen and G. B. Koelle. (1955) *J. invest. Derm.*, **24**, 561.

This hepatic enzyme is supposed to convert R-NH_2 R_2-NH or R_3-N produced by bacterial decomposition of protein to their corresponding aldehydes. It has no action on diamines such as histamine.

It is assayed in the manometer with tyramine, but its presence can also be detected in frozen sections by incubation with tryptamine and the reaction of its aldehyde with hydrazine and tetra-azotized o-dianisidine. In the skin it is present in epidermis and appendages and may possibly take part in the formation in apokrine sweat of ammonia and pigments.

J. H. T. D.

THE MUMPS SKIN TEST AND COMPLEMENT FIXATION TEST AS A DIAGNOSTIC AID IN SARCOIDOSIS. E. L. Quinn, D. C. Bunch and E. M. Yagle. (1955) *J. invest. Derm.*, **24**, 595.

Sixty per cent. of adults give both positive skin and complement fixation reactions to a commercially available mumps antigen, and only about another 5% give the complement fixation alone. In sarcoidosis the skin fails to react to all sorts of things—tuberculin, B.C.G., trichophytin, pertussis vaccine—and of 7 consecutive cases of sarcoidosis with positive mumps C.F.T. the skin reaction was negative in 6. With one exception all of the control cases that gave positive C.F.T.'s gave also positive skin reactions. The control consisted of 8 cases, in the differential diagnosis of which sarcoidosis had been considered but (after histological and other studies) excluded. In the solitary exception the undiagnosed condition though not sarcoid was considered to resemble it in many important aspects. J. H. T. D.

LABORATORY STUDIES ON ENDOMYCIN WITH SPECIAL REFERENCE TO ITS ANTIFUNGAL EFFECT AGAINST CANDIDA ALBICANS. H. O. Perry and J. A. Ulrich. (1955) *J. invest. Derm.*, **24**, 623.

The fashion of treating every symptom with antibiotics has resulted in many patients developing chronic and intractable moniliasis.

One hundred strains of *Candida albicans* and 9 of *Candida tropicalis* were used: 18 mg. of endomycin per c.c. of culture medium seems to have been enough to inhibit the first 50 strains tested and 24 mg. per c.c. sufficed for 89 of them. But 450 mg. per c.c. was needed to dispose of the last one and 225 mg. per c.c. to make a clean sweep of the 9 *tropicalis* strains.

Tolerance of up to 45 times the initial inhibiting concentration was quickly acquired by many strains. J. H. T. D.

SURVIVAL OF DERMATOPHYTES APPLIED ON THE FEET. R. L. Baer, S. A. Rosenthal and D. Furnari. (1955) *J. invest. Derm.*, **24**, 619.

A drop of fluid suspending live fungus was placed in the middle of the sole and another just behind the inner malleolus and allowed to dry on 15 healthy subjects and on 7 suffering from tinea pedis (on an unaffected site and with a different dermatophyte). The subject then put on his socks and shoes and returned daily for examination. It does not say if he was allowed to wash his feet or to change his socks.

In no subject did the microbe succeed in establishing itself, though it was found in scrapings and in a few instances recovered in culture up to 7 days later.

The authors conclude that " the foot skin of most persons appears to have a remarkable capacity to rapidly rid itself or to kill or inhibit pathogenic fungi, similar to the self sterilizing properties of the skin against bacteria."

(It is widely believed that the skin does not sterilize itself where the microbes are not exposed to desiccation, desquamation or the friction of clothing, e.g. in the 4th interdigital web of the foot. Since this is a regular site of election for fungous infection it is difficult to understand why it was not studied in these experiments.) J. H. T. D.

A HISTOCHEMICAL STUDY OF EPIDERMAL GLYCOGEN IN SKIN DISEASES. K. Steiner. (1955) *J. invest. Derm.*, **24**, 599.

Sections from 100 cases representative of 30 diseases were stained for glycogen with McManus before and after digestion with diastase. Glycogen, though abundant in hair follicle and resting sweat gland, is normally absent from the covering epithelium. But it sometimes appears in the middle part of the rete in association with abnormal cornification especially with parakeratosis, e.g. in psoriasis, the parakeratotic zones of keratoma senile, healing wounds, acute eczema, etc.

It is not found in callosities, warts or basal-celled carcinoma. J. H. T. D.

ABSENCE OF CHROMOSOMAL SEX DIFFERENCES IN THE EPIDERMAL STRUCTURES OF BASAL CELLED CARCINOMA. J. P. Weinman, J. Meyer and A. S. Marwah. (1955) *J. invest. Derm.*, **25**, 43.

In H. & E. sections of skin a characteristic chromatin particle may be seen in 70% of epidermal nuclei in females and in 5% in males. The distinction has been considered reliable enough in experienced hands for use in assigning sex to hermaphrodites. But the nuclei in basal celled carcinoma and epidermoid carcinoma of the gum and sometimes also in the neighbouring epithelium contain a particle that is easily mistaken for the sex chromosome. J. H. T. D.

OBSERVATIONS ON ELECTRICAL MEASUREMENTS OF THRESHOLD SENSIBILITY OF THE SKIN WITH SQUARE WAVE CURRENT. H. Sigel. (1955) *J. invest. Derm.*, **25**, 56.

One can measure in several ways, on a basis of intensity/duration, the electrical stimulus required to produce, at 50 cycles per second, a cutaneous sensation of vibration. The minimum voltage at an impulse-duration of 10 milliseconds was found often to correspond with and to work out at the same figure as the square root of the product of twice the voltage found in the first measurement and the minimum impulse-duration. This figure is called the Sensibility Threshold Index and it averages around 1·5 (e.g. 0·1 milliseconds and 15 volts).

But the threshold is lower in females—both in healthy students and in patients with skin diseases. The lowest thresholds, however, were found in women suffering from discoid eczema and who attributed it to detergents (" housewife's eczema "). J. H. T. D.

HYALURONIDASE AND METHYLENE BLUE STAINING OF NERVE FIBRES ABOUT THE HUMAN AXILLARY APOKRINE SWEAT GLAND. M. M. Cahn and W. B. Shelley. (1955) *J. invest. Derm.*, **25**, 63.

This method, in which the dye and spreading agent are injected together into the skin ¾ hr. before the biopsy, produces results little more impressive than the conventional silver stain with which it is compared.

Some fibres, presumed to be the "terminal neurofibrillae of the autonomic system" are seen to invest the tubules; but they have no apparent connexion with other nervous elements, the invisibility of which is attributed to the density of the connective tissues through which they run.

This staining technique did not, as it does in the rabbit, satisfactorily distinguish adrenergic from cholinergic nerve fibres. J. H. T. D.

SERUM LIPIDS AND THYROID ACTIVITY IN LUPUS ERYTHEMATOSUS: MODIFICATION WITH PROPYLTHIOURACIL. F. W. Lynch and J. D. Krafchuk. (1955) *J. invest. Derm.*, **25**, 3.

When a patient who had had discoid L.E. for 12 years became hyperlipaemic through neglected diabetes the L.E. disappeared for a while, but returned when his diabetes was brought under control. Elsewhere cases have been recorded of systemic L.E. having been mistaken for hyperthyroidism and treated successfully with radio iodine.

Ten patients with "subacute or chronic" L.E. (5 of them had arthralgia and 2 fever) were treated with propylthiouracil and such improvement as took place appeared to correspond with the degree of change obtained in the serum cholesterol. J. H. T. D.

STUDIES ON "MOSAIC FUNGUS". K. Getz, S. D. Skillern, J. A. Ulrich. (1955) *J. invest. Derm.*, **25**, 29.

"Mosaic fungus" could be demonstrated in the thick horny layer on the anterior part of the heel in 19 out of 20 subjects not manifestly suffering from ringworm. In the interdigital webs, where true mycelial elements were quite often seen, mosaic was only seen twice. In cases of ringworm mosaic was found in association with mycelium in only 4% of cases.

If a potash preparation containing mosaic has been warmed the mosaic will usually be found to have disintegrated within 24 hours. J. H. T. D.

A STUDY OF EXPERIMENTAL HUMAN INFECTIONS DUE TO TR. RUBRUM, TR. MENTAGROPHYTES AND EPIDERMOPHYTON FLOCCOSUM, WITH PARTICULAR REFERENCE TO THE SELF-LIMITATION OF THE RESULTANT LESIONS. J. C. Sloper. (1955) *J. invest. Derm.*, **25**, 21.

In these experiments by the author on his own skin and that of a colleague all the infections cleared spontaneously within 4 months, confirming observations made during an epidemic of *T. mentagrophytes* ringworm in Malaya.

It has hitherto been supposed that organisms that are notorious for their affinity for the nails infected the skin more persistently than others; and that there were important practical differences between zoophilic and anthropophilic varieties. Everyone interested in the practical aspects of ringworm should read this paper. J. H. T. D.

CHEMICAL AND BIOLOGICAL TESTS WITH TOXIC SUBSTANCE OF POISON IVY (URUSHIOL) AND ITS ABSORPTION BY AMBERLITE ION-EXCHANGE RESINS. F. M. Thurmon, B. Ottenstein and M. J. Bessman. (1955) *J. invest. Derm.*, **25**, 9.

Both XE-87-2 and XE-87-3 effectively remove urushiol from solutions of it in glycerine and water.

Barrier creams containing these resins gave protection superior to that given by zirconium oxide and prantal (diphenmethanyl methyl sulphate) creams. The patch test lesion proved much more intractable than natural poison-ivy dermatitis, but preparations containing these resins were not inferior to the other remedies employed in its treatment. J. H. T. D.

POTENTIATION OF SUNTANNING THROUGH INGESTION OF 8-METHOXYPSORALEN. A. B. Lerner. (1955) *J. invest. Derm.*, **25**, 1.

Thirteen patients, 12 of them with vitiligo, believed that the normal parts of their skins became more deeply pigmented than usual last summer as a result of taking the drug. J. H. T. D.